

WHAT IS CLAIMED IS:

1. An apparatus for controlling a plurality of hydraulic motors and a clutch in which a single driving shaft is driven by outputs of a plurality of hydraulic motors, and one of the plurality of hydraulic motors drives the driving shaft through the clutch, comprising:

zero tilt rotation fixing means for fixing the tilt rotation amount of a first hydraulic motor to zero when a zero fixing pressure ($P_{cs}=P_f$) of a predetermined value is input;

a clutch that is disengaged when a release pressure (P_k) of a predetermined value that is larger than the zero fixing pressure (P_f) is input;

hydraulic vehicle speed detecting means for detecting a vehicle speed by a vehicle speed signal pressure (P_v) based on a vehicle speed; and

control valve means that releases an output command pressure (P_{cs}) to a return pressure (P_t) connected to a tank until a vehicle speed signal pressure (P_v) received from the hydraulic vehicle speed detecting means reaches a start pressure (P_b) of a predetermined value, and begins to output the command pressure (P_{cs}) to the zero tilt rotation fixing means and the clutch when the vehicle speed signal pressure (P_v) exceeds a predetermined value.

2. An apparatus for controlling a plurality of

hydraulic motors and a clutch in which a single driving shaft is driven by outputs of a plurality of hydraulic motors, and one of the plurality of hydraulic motors drives the driving shaft through the clutch, comprising:

a first servo valve that controls the tilt rotation amount of a first hydraulic motor, and sets the tilt rotation amount of the first hydraulic motor to a zero tilt rotation amount when a zero fixing pressure ($P_{cs}=P_f$) of a predetermined value is input;

a clutch that is disengaged when a release pressure (P_k) of a predetermined value that is larger than the zero fixing pressure (P_f) of the predetermined value is input;

hydraulic vehicle speed detecting means for detecting a vehicle speed by a vehicle speed signal pressure (P_v) based on a vehicle speed; and

control valve means that releases an output command pressure (P_{cs}) to a return pressure (P_t) connected to a tank until a vehicle speed signal pressure (P_v) received from the hydraulic vehicle speed detecting means reaches a start pressure (P_b) of a predetermined value, and begins to output the command pressure (P_{cs}) to the first servo valve and the clutch when the vehicle speed signal pressure (P_v) exceeds a predetermined value.

3. An apparatus for controlling a plurality of hydraulic motors and a clutch in which a single driving shaft is driven by outputs of a plurality of hydraulic motors, and

one of the plurality of hydraulic motors drives the driving shaft through the clutch, comprising:

a first servo valve that controls the tilt rotation amount of a first hydraulic motor, and sets the tilt rotation amount of the first hydraulic motor to a zero tilt rotation amount when a zero fixing pressure ($P_{cs}=P_f$) of a predetermined value is input;

a zero tilt rotation detecting valve that detects the tilt rotation amount of the first hydraulic motor, and causes a command pressure (P_{cs}) to be in communication with the clutch to disengage the clutch when the zero tilt rotation amount is detected;

hydraulic vehicle speed detecting means for detecting a vehicle speed by a vehicle speed signal pressure (P_v) based on a vehicle speed; and

control valve means that releases an output command pressure (P_{cs}) to a return pressure (P_t) connected to a tank until a vehicle speed signal pressure (P_v) received from the hydraulic vehicle speed detecting means reaches a start pressure (P_b) of a predetermined value, and begins to output the command pressure (P_{cs}) to the first servo valve and the zero tilt rotation detecting valve when the vehicle speed signal pressure (P_v) exceeds a predetermined value.

4. An apparatus for controlling a plurality of hydraulic motors and a clutch in which a single driving shaft is driven by outputs of a plurality of hydraulic motors, and

one of the plurality of hydraulic motors drives the driving shaft through the clutch, comprising:

zero tilt rotation fixing means for fixing the tilt rotation amount of a first hydraulic motor to zero when a zero fixing pressure ($P_{cs}=P_f$) of a predetermined value is input;

a clutch that is disengaged when a release pressure (P_k) of a predetermined value that is larger than the zero fixing pressure (P_f) is input;

hydraulic vehicle speed detecting means for detecting a vehicle speed by a vehicle speed signal pressure (P_v) based on a vehicle speed; and

control valve means that outputs an output command pressure (P_{cs}) to the zero tilt rotation fixing means and the clutch when the vehicle speed signal pressure (P_v) received from the hydraulic vehicle speed detecting means is larger than a predetermined value (P_b), while it begins to release the command pressure (P_{cs}) to a return pressure (P_t) connected to a tank when the vehicle speed signal pressure (P_v) becomes smaller than the predetermined value (P_b).